

ABSTRACT OF THE DISCLOSURE

A process for manufacturing an integrated device comprises the steps of: forming, in a first wafer of semiconductor material, integrated structures including semiconductor regions and isolation regions; forming, on a second wafer of semiconductor material, interconnection structures of a metal material including plug elements having at least one bonding region of a metal material capable of reacting with the semiconductor regions of the first wafer; and bonding the first and second wafers together by causing the bonding regions of the plug elements to react directly with the semiconductor regions so as to form a metal silicide. Thereby, the metallurgical operations for forming the interconnection structures are completely independent of the operations required for processing silicon, so that there is no interference whatsoever between the two sets of operations. In addition, the areas where the two wafers are made may be separate, and the interconnection structures may be made with materials incompatible with silicon processing, without any risk of contamination.

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